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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,472	08/20/2003	Ricardo L. de Queiroz	A2456	5953

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EXAMINER

NGUYEN, LAMSON D

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CA

Office Action Summary	Application No. 10/644,472	Applicant(s) DE QUEIROZ ET AL.	
	Examiner Lamson D Nguyen	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 12, 16-20, 22-25, 28, 32 is/are rejected.
- 7) ☐ Claim(s) 5,10,11,13-15,21,26,27 and 29-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

- Page 1, related cases, application number is missing.

Appropriate correction is required.

Claim Objections

Claim 20 is objected to because of the following informalities: Claim 20 depends on itself. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-8, 12, 16-20, 22-24, 28, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Ostromoukhov (5,923,774).

Ostromoukhov teaches an encoding method comprising:

Claims 1, 16-17, 32:

- receiving a pixel possessing color values from an input image (figure 7)

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- receiving a plurality of information bits to be encoded at a corresponding pixel in an output image (figure 7)
- selecting one of at least two different GCR functions where the selection is based on the state of of said received information bits (figure 7, gray component replacement GCR unit 140 having two regions having different functions TS to subtract CMY and Ta to add black, depending on received bits C2, M2, and Y2)
- generating CMYK values using said GCR function and said color values (figure 7, using either Ts or Ta from the GCR unit 140 to generate signal values Cout, Mout, Yout, and Kout)
- assigning said CMYK values to said corresponding pixel in said output image (figure 8, step S804 and S805)

Claims 2, 18:

- wherein the pixel color values from the input image are in an RGB colorspace and then converted to CMY values (figure 7, teaches RGB signals converted to CMY signals using conversion unit 100)

Claims 3, 19:

- wherein the number of GCR functions to be selected from is dependent on the number of possible states of the information bits intended to be encoded at each image pixel (figure 7 teaches two GCR functions Ts and Ta which

depend on the possible states where CMY is being subtracted or where black is being added)

Claims 4, 20:

- wherein the number of GCR functions to be selected from equals the number of states of the information bits intended to be encoded at each image pixel (figure 7 teaches two GCR functions Ts and Ta which correspond to the possible states where CMY is being subtracted or where black is being added)

Claims 6, 22:

- wherein the GCR spatially varies across the output image (figures 10a, 11a)

Claims 7, 23:

- wherein the information bits to be encoded at a given pixel indicate the type of object to which that pixel belongs such as graphics, picture, text, line art, etc... (figure 4, 35a-c)

Claims 8, 24:

- the GCR functions are optimized to carry information (figure 7)

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Claims 12 and 28:

- a parameterized function is used for the GCR function and the encoded state sets the parameter of the function (figure 9 teaches parameterized function to add black or subtract CMY for the common gray component, as well as the states of add black or subtract CMY set the parameters; also column 9, lines 50-65 teach functions or matrices related to the GCR)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ostromoukhov in view of Loce et al. (6,643,030).

Ostromoukhov teaches all claimed features of the invention except a tag used for encoded bit information. It is well-known to use tags for encoded information as taught by Loce et al. (figure 4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Ostromoukhov to incorporate the teaching of a tag taught by Loce et al for the purpose of describing how a pixel should be halftoned.

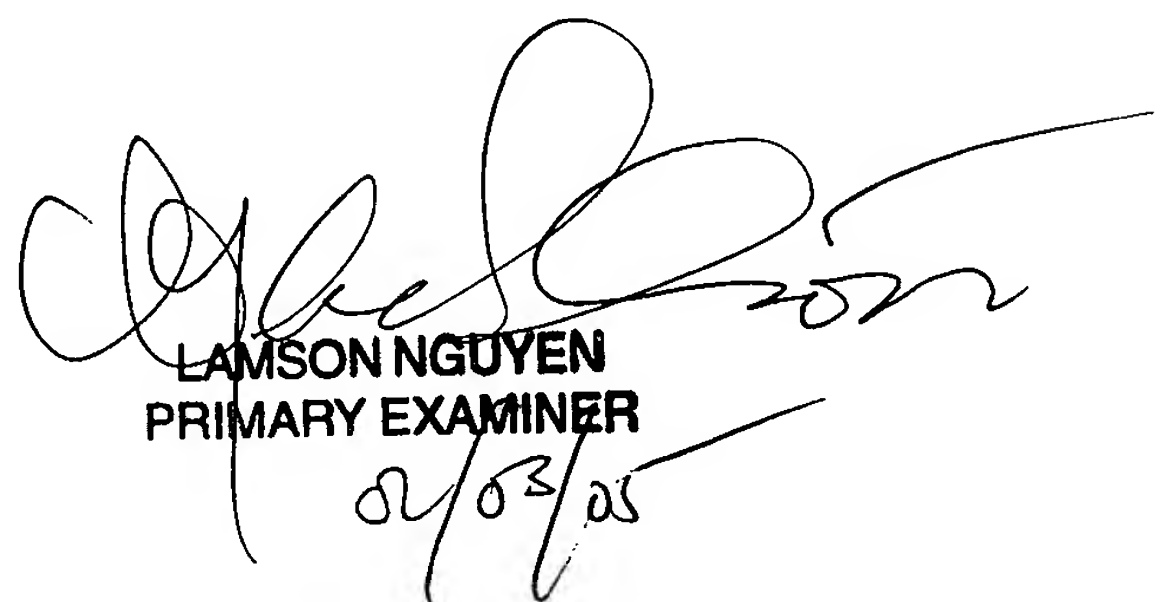
Allowable Subject Matter

Claims 5, 10-11, 13-15, 21, 26-27, 29-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


LAMSON NGUYEN
PRIMARY EXAMINER
02/03/05